EVALUATION OF LONG-BILLED CURLEW RANGEWIDE SURVEY PROTOCOL

GENERAL BACKGROUND

I am looking for people interested in conducting local Long-billed Curlew (LBCU) surveys during the spring of 2004. We are presently conducting a range-wide survey of breeding LBCU in attempt to estimate the total abundance in North America. Range-wide surveys are being conducted using the double observer approach (Nichols et al. 2000). In this method, two observers simultaneous count curlews along a series of point counts (32-km transects), where correction factors for missed birds are derived. I am looking for people with a knowledge of local breeding populations of LBCU interested in conducting surveys using this method, and then conducting more intensive surveys along the same transects to serve as known population estimates for comparison (Bart & Earnst 2002). These data will help us gauge the efficacy of the double observer approach.

Detailed instructions for this test are available from me and on the web (http://mountain-prairie.fws.gov/species/birds/longbilled_curlew/). In brief, the rangewide survey consists of establishing a 32 km (20 mi) transect, with 40 point counts, 800 m (0.5 mi) apart through a known LBCU breeding area. Its imperative that transects be established through areas with curlews. One day is spent doing the standard double observer survey, which requires two observers and takes about 7 hrs to complete. Cooperators then spend as much time as they have available intensely mapping LBCU at the individual stops (each a 400-m radius point count). A minimum of 1 hour and three visits is recommended per point. It is not necessary that all 40 stops be intensively surveyed. Since the number of potential territories per stop is low (1-2), observers can select which stops to intensively survey.

This is a pilot effort. Observers conducting intensive surveys should also be good naturalists and take notes on anything relevant to LBCU biology. It is critical that the true number of territories per point be accurately measured, so spend as much time as needed per point to get an accurate measurement. Data sheets and other information are available from me and all information about the Long-billed Curlew Range-wide Survey is posted on http://mountain-prairie.fws.gov/species/birds/longbilled_curlew/.

Another way folks can assist with this effort is to e-mail with observations on LBCU natural history. I am particularly interested in when curlews first arrive on their breeding grounds, when they begin incubation, and when the first fledglings are seen.

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INSTRUCTIONS FOR COOPERATORS

A) TRANSECT SELECTION AND LAYOUT

1) Select sites where LBCU are known to occur, preferably where there are many curlews.
2) Establish a 32-km (20 mi) transect on secondary or tertiary roads. It doesn't have to be one continuous road, but parallel segments should be a minimum of 1.6 km (1 mi apart).
3) Establish 40 stops, 800 m (0.5 mi) apart. Each stop consists of a 400 m (0.25 mi) radius, fixed-distance point count.

B) DOUBLE OBSERVER FIELD PROTOCOL (http://www.mountain-prairie.fws.gov/species/birds/longbilled_curlew/)

1) Contact Stephanie Jones (below) to establish a site.
2) Should be done as close as possible within 3-week pre-incubation period (see website for dates).
3) This survey has to be done by naïve observers according to the range-wide survey protocol. Naive observers should be either folks not working on the intensive surveys, or the double observer survey should be done on the first visit to the site when the route is established.

C) INTENSIVE SURVEYS

1) Intensive surveys should be conducted close in time to when the double observer counts are conducted (within a few weeks, if possible).
2) If double observers and intensive surveyors are the same crew, the double observer survey must be conducted first.
3) Estimate the amount of time that can be devoted to intensive surveys. It is not necessary that all 40 stops be intensively surveyed and they do not have to be consecutive but there should be an equal number of odd and even stops surveyed. Since the number of potential territories per stop is low (1-2), observers can select which stops to intensively survey – there's no point in conducting intenstive surveys at stops that you know have no curlews!
4) Try to spend a minimum of one hour, across three independent visits per point count, but spend as much time as needed to determine the number of territories in the plot. The amount of survey time over one hour is at the discretion of the intensive surveyor, depending on the following:
    a. Topographic, man-made, or macro-vegetation visual obstructions, will require area searches (Dieni and Jones 1999).
    b. Birds with territories on the edge of the plot will need more time to determine territory centroids, territory, and pair status.
5) Map all locations of LBCU within the 400-m radius point. Determine if the center of edge territories are within point count circle. For edge birds, enough time should be spent observing birds to determine territory and pair status, then determine if territory center is located within 400-m radius point count.

6) If there are no visual obstructions (man-made, topographic or vegetative), scan entire survey area using spotting scope and binoculars. Use the center of plot or other strategic location within count circle. Use GPS units or simple approximation to map locations of observed birds. If LBCU activity is observed or suspected within the plot, close observation may be warranted to determine pair and nesting status within the plot.
7) Intensive surveys can be conducted at any time of day.
8) For each point count, mark the following:
    a) Date
    b) Visit (if visited more than one day)
    c) Start and stop time
    d) Weather at start and stop time
9) For each bird observed, mark the following:
    a) Map location, out to 400 m.
    b) Pair status
    c) Sex, if possible
    d) Age
    e) Habitat (codes at: http://mountain-prairie.fws.gov/species/birds/longbilled_curlew/)
    f) Behavior (codes at: http://mountain-prairie.fws.gov/species/birds/longbilled_curlew/)
    g) Nests. If one is found it should be noted and mapped.

Contact Stephanie Jones (P.O. Box 25486 DFC, Denver, CO 80225 303-236-4409, FAX: 303-236-8680, E-mail: Stephanie_Jones@fws.gov) for more information and to do the evaluation.

Bart, J. and S. Earnst. 2002. Double sampling to estimate density and population trends in birds. Auk 119:36-45.

Dieni**,** J. S. and S. L. Jones. 2002. A field test of the area search method for measuring breeding bird populations. J. of Field Ornithol. 73:253-257.

Nichols, J. D., J. E. Hines, J. R. Sauer, F. W. Fallon J. E. Fallon, and P. J. Heglund. 2000. A double-observer approach for estimating detection probability and abundance from point counts. Auk 117:393-408.